

**Maritime Pilot Associations Correspondence**

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DESIGN & ENGINEERING SERVICES DIVISION  
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February 27, 2003

Captain Dale Collins, President  
SEAPA  
1621 Tongass Avenue  
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FAX: 907.247.9696

Subject: Gravina Access Project Marine Navigation Issues

Dear Dale:

On behalf of the Alaska Department of Transportation and Public Facilities (Department) I want to thank the members of the Southeast Alaska Pilots Association and yourself for providing the time, thought, and comments on the navigational reports. Marine navigation is one of the central concerns for this project, and it is good to see this work nearing completion.

Because of the level of effort put forth by you and other members of the Southeast Alaska Pilots Association to provide input to this very important issue, I feel it is necessary to respond to your input and hopefully enhance your understanding of our goals for the numerous investigations we conducted to characterize the impacts of the Gravina Access Project alternatives on marine navigation. Let me begin by saying that, at this stage in the process, we are focused on conducting the necessary studies to prepare an environmental impact statement (EIS) for the Gravina Access Project that meets the requirements of the National Environmental Policy Act (NEPA). The EIS is a decision-making tool that identifies the potential effects of the various alternatives on the natural and built environments. It is not intended to fully predict the impacts of the project; rather, it is intended to provide a means for comparing the alternatives based on their potential environmental impacts. The EIS for the Gravina Access Project and supporting technical studies are intended to aid the Department and FHWA in deciding which alternative best meets the purpose and need for improved access to Gravina Island while minimizing impacts on the environment and the Ketchikan community.

Considering the goals of NEPA and the purpose of the EIS as stated above, the investigations of potential impacts of the Gravina Access Project on marine navigation are intended to provide a means of equitable comparison of the alternatives and, in some cases, help refine our preliminary design of the project alternatives. While the methods used to investigate navigation impacts may not have considered every variable that could affect vessel navigability in Tongass Narrows, the Department is confident that analyses will allow us to fully, adequately, and equitably consider the potential effects of the project alternatives on marine navigation. Bearing these facts in mind, I hope in the remainder of this letter to address the comments and concerns expressed in the letters from you and other Southeast Alaska pilots.

I've condensed the pilots' major concerns regarding the STAR Center simulations and reports down to the following categories:

- What was the pilots' role in these navigational simulations?
- Was the number of allisions or near misses fairly represented?
- Is the wind data accurately represented?
- The STAR Center's simulator did not accurately simulate a variety of navigational characteristics, namely, bank suction, squat, cross currents in West Channel, master/pilot relationship, and winds.
- No local knowledge was used in the simulations.
- The dates of the simulations are wrong, and the GRT of the vessels are incorrect.
- Report format

The pilots had concern about the following navigational issues that took place during the simulations:

- Heel Angles.
- Absent traffic, the simulations were not an accurate portrayal of navigation of large vessels in Tongass Narrows. Widen scope of simulations to include traffic.
- Speed.
- Navigational obstructions (existing).

I have generalized the pilots' recommendations down to the following:

- Bridge location
- Bridge Angle
- Bridge Span

I will briefly discuss the following opinions and statements made by the pilots:

- Monte Carlo study is discredited because it predicts more groundings than have taken place.
- Risk is increased with bridge options. Are the risks acceptable or not?
- The simulations have been subjected to political vice. Statistics have been manipulated to prove or disprove the authors' purpose.

- STAR Center report and pilots comments on simulations are "buried somewhere not for public review".
- Report should have analyzed costs of groundings.

## STAR CENTER SIMULATIONS

### What was the pilots' role in the navigational simulations?

The goal of the simulation work was a more realistic assessment of the navigational accessibility of Ketchikan's harbor given different bridge alternatives than what was completed in the statistically oriented Monte Carlo report. Our objective was to determine whether these channels and bridges could be navigated under certain current, wind, and ship conditions. Although the simulations are typically used to train pilots, on the recommendation of the USCG and the pilots, we extended the application of the simulations to observe the issues encountered with different access alternatives. The role of the pilots was to navigate these channels using their experience within the channels and with the ships representative of those visiting Ketchikan now and in the near future. The Department invited a number of pilots to participate, representing broad range of experience.

AGREE

### Was the number of allisions or near misses fairly represented?

The Department's representatives are reviewing the simulation runs and will present any differences in the revised report.

GLOSTEN TO  
REVIEW

### Is the wind data accurately represented?

The presentation of wind data is primarily a statistical exercise and, therefore, it must follow accepted statistical methods. In its Wind Climatology Memorandum, The Glosten Associates (Glosten) analyzed wind data from Ketchikan International Airport for May through September over a 25-year period (1973-1998). For example, the following information about August can be gathered from Figure 12 of that memo:

DEAL W/ IT  
DEIS -  
CAREFULLY

Maximum wind speed (one minute average over 25 years) = 53.9 knots  
Average wind speed (50%) = 7.8 knots  
Calm = 10% of the time during the month  
Above 17.3 knots = 1% of the time.

REPRESENT  
CONCERNS AND  
WHAT THESE CONCERNS  
MEAN -

The highest wind speeds used in the STAR Center simulation were 30 knots sustained winds with 45-knot gusts. The 30 knot sustained winds exceeds the 99% average wind speed for the summer months by at least 10 knots. While extreme events do occur, precautions can often be taken to minimize risk to marine navigation. It is my understanding that if wind speeds exceed 35 knots in Tongass Narrows, large vessels are often advised not to attempt any harbor maneuvers. The wind data used in the analysis provides a conservative representation of conditions in Tongass Narrows.

### The STAR Center's simulator did not accurately simulate a variety of navigational characteristics, namely, bank suction, squat, cross currents in West Channel, master/pilot relationship, and winds.

The STAR Center is one of the few marine navigation simulators in the country, and is one of the most respected; however, there are inherent differences between simulations and real life. I have no basis to comment on the realism of bank suction, squat, or cross currents, but will

readily acknowledge that Mr. Baken's West Channel experience is a better gage of conditions than those represented in a model.

No local knowledge was used in the simulations.

The pilots provided input based on their local knowledge of wind speeds and currents in Tongass Narrows. In fact, that's how some of the parameters were established. Other local characteristics not incorporated into the model may have been useful in refining the ability of the model to simulate real conditions; however, such refinements were beyond the technological capability of the simulator or beyond the scope and budget of this study.

The dates of the simulations are wrong, and the GRT of the vessels are incorrect.

We are reviewing the information and will correct if incorrect.

Report format

The STAR Center sent their report in PDF format - with no cover page. We agree that it was confusing and will ask STAR Center to include a cover page, the authors of the report, and the date of the report. Also, the final report will have all of the pilots comments, tracklines, etc that were in the October report.

## **NAVIGATIONAL ISSUES**

Heel Angles

The Department considers heel angles to be an important consideration for safe and realistic navigation. For example, we were concerned that heel angles were excessive in the West Channel turn around Pennock Reef. We asked the STAR Center to address this issue, and they stated that they were not a problem.

Heel angles around Gravina Point are another issue. It is my understanding that excessive heel angles were only encountered around Gravina Point while attempting a West Channel transit. The goal of the simulations was to assess navigational accessibility of Ketchikan's harbor, namely the area north of south Pennock Island and south of Peninsula Point. The safest navigational channel to the south is Revilla Channel. Transiting to and from this channel does not result in excessive heel angles. No Nichols Passage transits entered East Channel. Similar heel angles probably would have been encountered given similar simulated weather conditions. Cruise lines opting to use Nichols Passage for their own convenience (i.e., more convenient access to gray/black water dumping) would certainly give priority to safe navigation and passenger comfort when considering vessel speed and the resulting heel angles.

Absent traffic, the simulations were not an accurate portrayal of navigation of large vessels in Tongass Narrows. Widen scope of simulations to include traffic.

No one disagrees that Tongass Narrows is a busy harbor. However, the simulations were not intended to be a statistically valid exercise. Errant or uncommunicative vessels could be present under all alternatives. Thus all navigation through the bridges would be riskier with accompanying traffic, particularly at the choke points of alternatives C3(a), C4, and F3.

Speed

The pilots stated that most simulations were run at excessive speed. They contend that in actual circumstances, these speeds would not be allowed due to excessive wakes, proximity to shoals, etc. I do not doubt their statements. On average, the simulated weather and current

conditions greatly exceeded normal conditions. This is probably part of the reason for increased speed.

#### Navigational obstructions (existing)

Placement of new bridge piers in some channels will make navigation around existing hazards much riskier. Certainly California and Idaho Rocks present a narrow constriction now.

Alignment opportunities through the bridge or through these rocks will be reduced unless one or more of the rocks is removed.

### **PILOTS RECOMMENDATIONS**

#### Bridge location

Although preferred recommendations varied between the C3(a)/C4 bridge and the F1 bridge, there is no doubt that the least preferred recommended location is the F3 West Channel bridge.

#### Bridge Angle

Many pilots stated that building the bridge to cross the navigational channel as close to perpendicular as possible is preferable. This is understood. However, this project has been a balance of competing impacts. The C3(a)/C4 bridges are already in the airspace of the Ketchikan International Airport. As depicted, the aviation industry has stated that these small incursions are acceptable. To decrease the angle of crossing would compound several problems: airspace intrusions, airport impacts, constructability, and cost. For the F1/F3 alternatives we are completing some realignments to reduce the crossing angle to address this concern.

#### Bridge Span

Some pilots were concerned that the 550-foot navigational span is too small. Some wanted 100 to 150 more. Some wanted no constriction in the existing channels at all. Spanning 1000 feet of channel is feasible with cable stayed and suspension bridges, but both of those bridge types have immediate and negative impacts to Ketchikan's aviation industry. This project is proposing to use a post-tensioned concrete box bridge - much like the Juneau-Douglas Bridge. The technically feasible navigational span of this bridge type for this location is approximately 650 feet, given extra distances for pier protection. Let me summarize by saying that longer bridges cost more, but that providing for reasonable needs of navigation is our primary goal.

### **OPINIONS and INTERPRETATIONS**

#### Monte Carlo study is discredited because it predicts more groundings than have taken place.

The Monte Carlo study is a statistical tool, recommended by the USCG, to determine and compare risk. As stated in the report, this study and its conclusions are prefaced with several assumptions. First and foremost, it is assumed that the pilots take no evasive actions.

Undoubtedly the Monte Carlo simulations would predict more numerous allisions than real events. However, to discredit the entire report is a disservice. And the Monte Carlo report confirms most observers' belief - Ketchikan is a confined, busy, and risky harbor.

#### Risk is increased with bridge options. Are the risks acceptable or not?

All bridges present new obstructions in their respective channel. Risks to navigation will increase. The acceptance of risk (by passing under the hundreds of bridges around the country) is done by those owning and operating the vessels. It is the Department's job, in

concert with the USCG, to reduce risk to an acceptable level whereby reasonable needs of navigation are met.

The simulations have been subjected to political vice. Statistics have been manipulated to prove or disprove the authors' purpose.

The Department has conducted an objective study of marine navigation impacts associated with the project. The simulation work was conducted to specifically address concerns voiced by the USCG and marine pilots. Upon issuance of the draft EIS, our methods of analysis will be fully disclosed and available for public and agency review and comment.

STAR Center report and pilots comments on simulations are "buried somewhere not for public review".

The STAR Center report (with all the pilots' comments) will be referenced in the draft EIS and will be available for public review once the draft EIS has been issued.

Report should have analyzed costs of groundings.

While discussions of potential accidents may prove to be interesting, such discussion would be largely speculative. We have analyzed the risk of allisions and groundings in the *Monte Carlo Navigation Simulation Technical Memorandum* (to be updated) prepared by The Glosten Associates, Inc. We consider allisions as extreme and unplanned events. Any further characterization of accident scenarios (e.g., spills and cleanup requirements, damage to ships and structures and related costs) would rely on broad-based assumptions with little or no factual basis.

As stated at the beginning of this letter, the scope of our study is founded on the National Environmental Policy Act (NEPA) with the intent of providing an analysis of the impacts of the project alternatives on marine navigation.

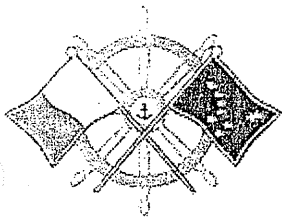
Identifying and describing potential future accident scenarios would be an attempt to identify and disclose events and impacts that are beyond what is considered reasonably foreseeable. The goal of our work is to select an alternative that will allow safe passage of large ships while balancing other needs as well.

Sincerely,

A handwritten signature in black ink, appearing to read "Roger Healy".

Roger Healy, P.E.  
Engineering Manager

CC: Mark Dalton, HDR Alaska  
Jim Helfinstine, USCG  
Tim Haugh, FHWA



# S.E.A. Marine Training Services

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February 3, 2003

Roger Healy  
State of Alaska  
Department of Transportation  
6860 Glacier Highway  
Juneau, Alaska 99801

Via:  
Captain Dale Collins  
President SEAPA  
1621 Tongass Ave., Suite 300  
Ketchikan, Alaska 99901

Dear Sir,

I have been involved in the Ketchikan Bridge Project pretty much from the beginning. I attended meetings and presentations by HDR to the United States Coast Guard in Juneau. During these early meetings my concern grew about how the project was being conducted. In the animation of a cruise ship transiting Tongass Narrows, it did not concern anyone that the ship was transiting areas where there was no water or the bridge was built in the middle of the navigational channel. It seemed that the idea was to "sell the project". I was concerned enough to write several letters to the Coast Guard Bridge Manager expressing my concerns. I provided track lines and positions for turns in Tongass Narrows to HDR. I do not know if any of these items were used. In May of 2002 I was chosen by SEAPA to represent a senior pilot's point of view in the STAR Center simulator. The following are my comments on the reports from that simulation and my experience at the simulator.

I would like to make some general observations prior to getting into specifics. It should be noted that the first week pilots did not have the Golden Princess for simulation. During the first day of simulation, we basically wasted our time, in that the horizontal distance for the bridge opening was incorrect. We (the pilots) continually asked the question "what exactly are we supposed to be looking at" That question was never answered. All of the pilots in the first week found that very frustrating. I found that the HDR representative to be particularly hard to work with. Any time a pilot commented on the simulation, there was always the perception that the pilot was being unreasonable. It took almost 3 days to get the wind speed increased beyond 20 knots. All we heard was the wind data was obtained directly from the US Weather Services for the Ketchikan airport. Even



hourly averages that are the result of the wind speeds reported each minute. The use of the wind data in this report is a case where statistics are being presented as a means to an end that the presenters have pre determined. The information presented is only a small part of the wind story. I went to the Southeast Regional Headquarters for NOAA and retrieved the data for the Ketchikan airport for the past 12 months, although the data is not for the years 1974-1999, it is indicative of the winds in Ketchikan harbor. Listed on each months print out of the wind speed is also a peak gust for each day. For instance October 8th 2001 the daily average listed is 7.2 knots; the peak gust for the day in question is 51knots! Typically the daily winds probably looked like this:

0000—calm	0100—calm	0200—calm	0300—calm
0400---calm	0500---calm	0600---calm	0700---calm
0800---calm	0900---9kts	1000---25kts	1100---33kts
1200---51kts	1300---25kts	1400---15kts	1500---12kts
1600---4kts	1700---calm	1800---calm	1900---calm
2000---calm	2100---calm	2200---calm	2300---calm

If you are going to use the wind data, use ALL of the data, this includes the peak gusts. During the 12 month period October 2001 to October 2002, 52% of the days reported (there are some days that there was no data due to instrument problems) had winds reported in excess of 20 knots. 28% of all the days reported during this period had winds in excess of 25 knots recorded. In the month of October 2001 32 % of the reported days had winds in excess of 30 knots, this is not a statistically insignificant number if you are the pilot of a ship transiting Tongass Narrows during that time!!

#### Bridge design:

One of my main concerns in regards to the design of the bridge without regard to the final location of the bridge is the actual location of the bridge in the channel. All of the proposals had the bridge at an angle to the channel. This is not acceptable from a navigational standpoint. The center of the span should be in the center of the channel and the bridge should be perpendicular to the axis of the channel. With the bridge on an angle to the channel, the effective opening is reduced dramatically if the ship is crabbing in the wind or current to stay in the center of the channel. Not having the center of the span in the center of the channel presents a dangerous visual perspective to the ship handler which could cause an accident at night or in poor visibility.

#### Bridge location:

My comments on the chosen location of the bridge are as follows:

North Channel location; this is the least objectionable from a navigational safety standpoint. As long as the bridge is perpendicular to the axis of the channel and the high point of the bridge is in the middle of the channel, this would change the waterway the least. Although taking away passing lanes in the channel that now exist, this would be an acceptable alternative.

when I tried to explain that there were many days with winds over 20 knots, the answer was always "the number of days of over 20 knots is statistically insignificant", it didn't matter that there was over 100 combined years of southeast marine experience telling them that they were wrong. It was obvious that the F3 option was already chosen and the simulation was going to prove that that was the right choice. The HDR mind set seemed to be "My mind is made up, don't confuse me with the facts". Any safety issue brought up was always "**perceived** by the Pilots to be a problem". When safety issues were brought up the answer was "I guess you'll just have to work harder and safer". By giving these answers, it became clear to me that the people conducting these tests had no idea what pilots do for a living. I take offence at that, I have been going to sea for 37 years. As a pilot on any of the new cruise ships I am responsible for the safety of approximately 4000 lives and one half a billion dollars worth of hardware. I take my job seriously and don't appreciate the cavalier attitude of the people that told me to work harder and safer.

#### Simulation:

Although simulation is really the only way to check on many of the questions that needed answering, one must remember that it is simulation. STAR Center's simulator is realistic as far as the controls on the bridge are concerned. The vessels sometimes react like a real vessel and sometimes do not. Vessel heel is one of the problems that the simulator does not do well, some of the speeds and turns that were made would cause the Captain on any real ship to relieve the Pilot. A list of 14 degrees was accepted on the simulator as OK. In real life if the ship lists over about 3 degrees the captain is on his way to the bridge. You have just dumped most of the passenger's dinner at 5 degrees. The pool is starting to empty onto the deck at 10 degrees. . Although the computer calculates the heel, and displays it on the console, the visual picture one sees does not compute with what one sees and feels on a real ship. The currents and wind are very generic. The current basically runs up and down the channel, not taking into account the changes in bottom contours or the stage of the tide. There is not a wind driven current that would be present in strong wind conditions. When using the simulator, there is no real interface with the Captain. The pilot was acting as the captain and moving all of the controls himself. This is not what happens in the real world. By handling the controls yourself, things happen much faster on the simulator than on a real ship where your orders are echoed by the staff captain and then whoever is actually moving the lever moves it at whatever speed he deems necessary. Much of the job of a Pilot is making sure that the Captain is happy with how he is taking care of his ship. This "feel good" mode does not happen on a simulator, and therefore allows you to do things that you would not normally do on a real ship.

#### Wind:

As I mentioned earlier, wind is a major factor in safely handling these large cruise ships. Higher the wind speeds and more gusts make for the greater the risk and difficulty in maneuvering these large vessels. The data provided by HDR is totally skewed to the low end of the wind speeds. It was explained to Mr. Dalton that the airport data was a daily average of wind speeds that are the result of the

East channel High bridge location; if the north channel location is not an option, the high bridge over the east channel is the next best option. It should be noted that by placing the east channel bridge north of California rock, you have greatly reduced the maneuvering room to pass California rock safely. At present, the entire area north of California rock can be used to maneuver and line up at somewhat of an angle to pass through this narrow opening both northbound and southbound prior to passing and just after passing this restriction. This allows a vessel that is not exactly centered in the channel to pass safely. During strong winds, the vessel normally crabs down or up the channel making the normal course to pass California rock different by six or seven degrees. If a bridge is put in North of that shoal area, there is little or no time to maneuver to straighten the vessel out to pass this narrow spot in the channel. Again, if the bridge is located here, it should be located in such a way as to have the center of the span in the center of the navigational channel, and perpendicular to the channel.

West Channel High bridge option; The west channel is not used now for a reason, it is not safe to take 1000 foot long 100 thousand gross ton vessels through this channel. I think that each and every pilot made this comment involved in this project. The channel is too narrow, requires too much speed to maintain safe steerage, and places the vessel in unnecessary danger for no reason. By using the west channel, the turn northbound from Blank Island approaches is dangerous, requiring the ship be slowed to a stop, rotated, to the proper north bound course and then increase speed to ten knots or more to safely navigate the channel. To make the turn with out slowing around Gravina point causes the vessel to list dangerously to angles in excess of 12 degrees. With or without a bridge the West channel is not acceptable from a navigational safety standpoint.

#### Speed:

The speed limit from Channel Island in the north end of Tongass Narrows to Saxmon in the south end of the Narrows is 7kts. In almost all cases speeds in excess of this were used with the bridges in place. Tongass Narrows is a very narrow waterway with docking facilities on both shores. The no wake zones are in place for a reason, large vessels displace large amounts of water. At speed, they cause large amounts of damage. Vessels are responsible for their wakes. This is a very delicate issue in Ketchikan. The no wake zone was voluntary extended to Channel Island from Charcoal Point because of all of the complaints from local residents. It should be noted that the width of the waterway in this area is over a mile wide compared to areas of east channel that are 400 yards wide and areas of West channel that are but 370 yards wide. In the case of the west channel, the vessel is hugging the east side of the channel along Pennock Island at less than 50 yards. Who is going to be responsible for all of the wake damage?

#### Hazards to navigation:

In the report, it seems that the bridge is attached to the hazards to navigation in the harbor. That is to say, if the bridge is built all of your concerns about the

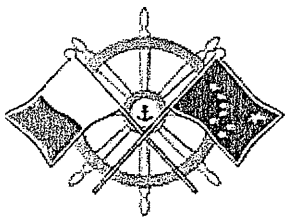
shoals and hazards to navigation can be forgotten. The shoals north of Pennock Island will be removed, the shoal just off of the pier will be removed, the shoal south of Gravina Point will be removed, the Cement Barge will be removed. Each of these is a major project in itself, and none of them are attached to the bridge project. Where is the funding for these projects going to come from? What is the time line for these projects? The other hazard to navigation that has not been discussed is the small boat traffic in Tongass Narrows. All of the pilots in the study wanted to have traffic in the simulator study, maneuvering the large cruise ships in Tongass Narrows around Barges, Fish packers, gill netters and the pleasure boaters is a large part of the job of safely navigating the waterway. Putting up a bridge anywhere in the waterway will cause bottle necks to develop and put up additional dangers to the large vessel traffic. Keep in mind that every vessel does not have a professional mariner on the bridge making intelligent decisions. A few hours listening to the radio traffic on channel 13 and 16 would make you aware of that.

This report should be of interest to David Copperfield, because it contains more "smoke and mirrors" than his best magic act! The information in the report is an example of making use of numbers and statistics to confuse an issue. Much of your data is out dated, the average tonnage of vessels is much higher than your study shows, and should have been updated to reflect the current tonnage and size of the vessels we are looking at. Your wind data is not correct as pointed out above and at Dania last May. The data in your tables does not match the commentary in the report as pointed out by Captain Luck in his letter. Your tables and statistics are so confusing that the average person has no idea what they are looking at. This report is a disservice to the residents of Ketchikan.

Sincerely;

Captain Robert Winter

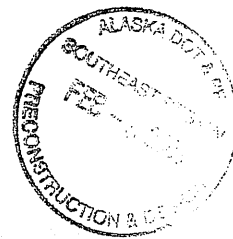
CC: USCG Commander 17(oan), Bridge Section.



# SouthEast Alaska Pilots' Association

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Capt. Dale O. Collins, President  
apt. Ted Kellogg, Vice President



30 January 2003

Mr. Roger Healy, P.E.  
Engineering Manager  
State of Alaska DOT  
6860 Glacier Highway  
Juneau, Alaska 99801-7999

Dear Mr. Healy,

The Gravina Access Project Report prepared by HDR Alaska, Inc. on behalf of Alaska Department of Transportation, December 2002, does not include the RTM Star Center report in its binder under the 5 tabs located in the index examining various navigational issues in Tongass Narrows. This report is located in the left side pouch of the binder, not indexed, while the real time navigation simulation study (Star Center) technical memorandum draft – Rev. C by the Glosten Associations, Inc., October 2002, is listed under tab 1. This is confusing and misleading. The RTM Star Center report needs to be indexed and formally included in this report. It is in the Glosten report under References (page 51) RTM Star Center, Ketchikan Bridge Project, Summary Report, July 2002 with a July 2002 date this report should have been indexed and tabulated in this report.

The Star Center companion report embraces pilots concerns and gives specific recommendation to improve bridge safety, i.e., widening the horizontal bridge clearance from 550 feet to 650 feet and alien bridge supports perpendicular to the navigation Channel with the highest point of the bridge in the center of the channel. Their summary and overview concludes with locations ranked by navigational concerns only with C-4 North bridge, F-1 East Channel high bridge, and F-3 West Channel high bridge with impact and advantages explained (page 24).

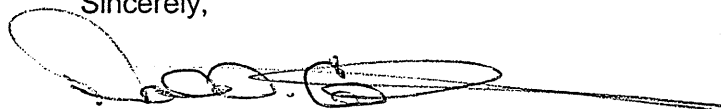
The Glosten Report explains away pilot's concerns and uses cumulative probability graph, extrapolation graphs, percentages and statistical measurement to determine the C-4 bridge option has the least number of potential grounds per year (page 18. Their summary and conclusions end with "The risk of using West Channel at its narrowest point is estimated to be 24% greater than the risk of transiting East Channel at its narrowest point." (page 47).

These companion reports used different methods to explain how they arrived with the same conclusion. Marine Pilots agree C-4 has the least impact on marine navigation with F-1 a good second choice. F-3 has no support among pilots. West Channel would have to be widened near the proposed bridge location by removing the rock shoal on the Gravina Island shore before pilots would consider this option. The West Channel option would still cause congestion in Tongass Narrows and

unpredictable time delays for large ships and tugs & tows transiting the Narrows. The West Channel is a secondary channel to be used as weather and traffic permits. East Channel is the primary channel and should remain the channel of choice for deep draft vessels.

We have a proven safety record in Tongass Narrows by erring on the side of caution. We recommend all the Government agencies involved with this bridge project to do the same.

Sincerely,

A handwritten signature in black ink, appearing to read "Dale O. Collins", with a long horizontal line extending to the right.

Capt. Dale O. Collins  
President

CAPTAIN KARL A. LUCK  
108 HUCKLEBERRY CIRCLE  
KETCHIKAN, AK 99901

17 January 2003

TO: Roger Healy  
State of Alaska  
Department of Transportation  
6860 Glacier Highway  
Juneau, AK 99801

via: Captain Dale Collins  
President SEAPA  
1621 Tongass Ave., Suite 300  
Ketchikan, AK 99901

Dear Sir:

I have been asked to comment on the Gravina Access Project inasmuch as I participated in the simulation portion of the study for two of the three weeks. The resulting Glosten study is a very complicated and highly mathematical thesis that is difficult to follow and understand. I will attempt to make some meaningful comments that are crucial if location and design decisions are to be derived from this analysis.

UNREALISTIC ASPECTS OF SIMULATOR:

While the simulator is probably the best tool there is, there are still many unrealistic and limiting aspects to it. As designed and operated, the simulator is a "no risk" method of testing situations. Although maneuvers are simulated as best they can be, there is no assurance that these same maneuvers would be attempted in real life. The risk of failure may be just too great. Being able to do the simulation is good, but just because it worked in the simulator doesn't mean that it will work in the real world. Being a computer, the simulator can be only as realistic as the programs and the data you put into it.

Second, there was no pilot/master relationship to be dealt with in the simulator. We acted more as masters having free reign to do whatever we wanted and not having to deal with the second guessing of a master, staff captain or mate. This structure also provided no "alter ego" to provide feedback on what was being attempted. For the study this was a built-in condition but again in the real world the comfort level of the master needs to be dealt with.

Thirdly, there was little or no consideration given to the amount of rudder used or required to be used when making the maneuvers. In real life, using the degrees of rudder necessary to make some of the turns, such as from Nichols Passage, would have resulted in excessive heeling of the vessel and immediate relief of the pilot.

Fourthly, we were advised that the hydrographic model for the current for all three branches of Tongass Narrows was generic in nature. There was no data to develop the actual real world current models. The actual currents in these channels would be affected by the bottom contours and would change as the state of the tide changed. There was no input, to my knowledge, for wind driven currents or currents that result from prolonged periods of rain. Therefore what we had was a generic current which is primarily along the main axis of the channel. This being the case there is **no local knowledge** being applied by the pilots; only the ability to conn a ship in a generic channel.

Fifth, vessel's speed was excessive during simulation. In most cases this was necessary to control the vessel in the conditions dictated. In the real

world these excessive speeds would create unacceptable wakes and a master who would want a different pilot. One must be concerned that if excessive speed is needed in the West Channel to control the vessel during transit the simulation is invalid. These speeds just would not happen and therefore the results based on this questionable simulation should not be used as a basis for decision making. It is also noted that speeds in the East Channel were more attuned to actual transits but still exceeded the speed limit by 1 knot. Recommendation: If the analysis is going to be credible and used to make decisions, then the data entered into the model must be accurate and believable and the simulation must be performed with real world constraints.

#### WIND COMPONENT

There was a lot of discussion and debate about the wind. It seems that while the Glosten report praises the pilots for doing such a good job of conning large vessels in confined waters, the Glosten authors, on the other hand, totally disregard the pilots input about the wind data. I don't profess to be able to dispute the data from the Ketchikan Airport without having the empirical data and knowing how it was collected, but I offer these comments in regard to the data used. Without going into a long discourse on the whys and wherefores, we all know that the wind is calmer during the night hours than during the day. Therefore, when dealing with averages and means, it is easy to come up with figures and statistics that are absolutely correct but are also absolutely useless or irrelevant. For example: Since cruise ships, as a rule, do not use the harbor during the evening hours (most have left port by 6:00p.m. and are in transit to the next port), including the wind data for these absent hours is irrelevant and meaningless. Having an average wind or mean wind that includes these "quiet" hours only serves to mitigate the day time not-so-quiet hours when these ships are actually transition the channels. I see that the study eliminates the wind data from the winter months since no cruise ships are here during that period. Then why not eliminate the winds for the evening hours when no cruise ships are in port? Any process that can refine the data to represent what is actually experienced would improve the analysis and the decisions derived from the analysis.

Recommendation: If you eliminate the worse case scenarios i.e. wind during the winter months, then to be credible you need to also eliminate the "best case" scenarios i.e. wind during the "evening hours" when it lays down and no cruise ships are in the harbor. I suggest that only wind observations taken between the hours of 6:00 a.m. to 6:00 p.m. be used for the study and, that the Monte Carlo and the PIANIC fast-time maneuvering simulation studies be rerun with that data.

#### FIRST IMPRESSION OF REPORT

The Glosten report seems to be a very credible study and may be very believable to the uninformed. Albeit, not knowing what parameters were entered in to the various simulations is not knowing the validity of the results. My first impression of the report was a question as to why the RTM STAR CENTER Technical Memoranda was not an integral part of this analysis? It seemed to me that the RTM STAR CENTER Technical Memoranda had an excellent discussion on the navigational concerns, was very credible, and had the appearance of being unbiased. Whereas the Glosten Associates, Inc. presentation appears to be totally biased and driven to a predetermined conclusion. My strong recommendation is to include the RTM STAR CENTER Technical Memoranda as a tab to the report and deal with any points that are in disagreement with a factual argument.

#### SIMULATOR PARAMETER

The Glosten success or failure parameters seem to be focused on were the bridge piers hit or not. While this may be a valid concern, the Glosten study failed to consider other navigational aspect of traffic, the mix of traffic, the



affect on traffic patterns by blocking off one or another of the channels, the increased navigational risk resulting from changing the routes and other real-world concerns. Therefore, when the study gives delay times due to certain bridge options it must be realized that this is raw data based only on one ship's ability to enter or leave the port without conflict and without consideration to anything other than it's own maneuvering ability.

Most of the transits in the simulator were terminated once the ship passed under the bridge. Here again, that is fine to generate data concerning allisions with the bridge piers, but the results derived from this analysis should not be construed as determining the impact of placing a bridge in that location without a much more complicated simulation. Other navigation situations, dictated as a result of constructing a bridge, were not fully simulated i.e. the turn from Nichols Passage into the West Channel, the turn from the West Channel into Nichols Passage, the turn from Revillagigedo Channel into the West Channel and the turn from the West channel into Revillagigedo Channel, the turn around Pennock Reef, dealing with the unmarked 5 fathom spot north of Pennock Reef, and the shallow area that is unmarked north of the bridge located in the West Channel. While some runs included these events, there were insufficient runs and insufficient data collected to establish any meaningful base to draw hard conclusions to a mathematical certainty.

No traffic was introduced into the simulation because of unpredictability of tracks etc. and that traffic would affect the repeatability and therefore the analysis of data (one run to another, one pilot to another.) The omission of traffic makes the study only partially reliable.

Two-way traffic in Tongass Narrows seemed to be summarily dismissed because there were rare examples of cruise ships that passed one another in the channel. This may again be true but totally worthless information. What about passing ferries, tugs with tows, large processing vessels, the occasional cargo ship, Coast Guard cutters, USN vessels (submarines), and U.S. flagged cruise ships? What about the mix of non-professional non-licensed mariners with the transit of these large vessels that use the channels at the same time? To dismiss two way traffic as a non-issue is to place discredit on the Glosten analytical results.

The assumption that smaller cruise ships are easier to handle and therefore are not worth studying is questionable in my judgement. It is interesting to note that some of the "smaller vessels" require a tug to moor and unmoor, but that is not addressed in the study. Some smaller vessels are not equipped with the bow and stern thrusters as the vessels used in the simulator. A more scientific approach would have been to determine the horse-power-to-tonnage ratio of vessels, determine the sail area coefficient for wind, prepare a mathematical equation for the vessel's handling characteristics, model these parameters and run the simulation.

Recommendation: Widen the scope of the simulation to include the effect on traffic and the effect that traffic will cause on cruise ship arrival and departures transit times. If the Glosten study is going to make decisions or statements concerning this aspect of the simulation, then the basis for making such statements needs to be quantified. Another solution is to remove any comments or decision about items that were not fully quantified or simulated.

#### SIMULATED GROUNDINGS vs POTENTIAL GROUNDINGS

It is often said that " A GROUNDING CAN RUIN YOUR ENTIRE DAY." In reading the report, I came away with the idea that there were only TWO groundings as a result of the simulation and all others were potential groundings. The two reported groundings were explained away: one was by the RTM STAR Center pilot that had no local knowledge and the other by a mariner who was not yet licensed as a pilot. As previously discussed, with no actual hydraulic data on current and a fictitious wind being the data base for the simulation, there is no local knowledge being used in the simulator; thus these groundings

should be counted in the analysis. I must also report that there were **numerous groundings** during the two weeks that I attended the simulator and I suspect that there were a few the previous week as well. Why hasn't this empirical data been fully discussed in the report? How many groundings caused by rerouting the traffic is acceptable to the authors of the study? Why does the study refer to the "pilots perceived risk of using the West Channel" and yet fails to report the number of times that the simulator actually stopped due to a grounding in the West Channel? Why hasn't the RTM STAR Center discussion on the navigational risk of the West Channel been believed by the authors rather than dismissed as a "perceived risk"? How many actual simulator groundings occurred in the East Channel?

A very possible potential for the manipulation of data is *what constitutes a potential grounding?* It appears that the study may have used a transit within 75 feet of ground or an obstruction. If one wanted to manipulate the data, this figure could be 100 feet or 150 feet or 50 feet and the reader would not know what parameters were entered--only the conclusion drawn from the report. Recommendations: Include empirical data as it pertains to groundings that occurred in the simulator. When massaging the data with Potential Groundings, do so in the hypothetical but don't attempt to mix real results with potential or theoretical results to get the answer you are looking for.

#### MONTE CARLO STUDY

If the entering data for the Monte Carlo study were the same as the entering data for the simulator, then the results of that study should also be questioned. I refer back to the WIND COMPONENT comments and suggest that these figures be used in the fast simulation and then see what the study determines the bridge openings be set at.

Aside from that little detail, the Monte Carlo study, as conducted, predicted that there would be on average 27 groundings yearly in the East Channel and 32 groundings in the West Channel, given the parameters presented to the fast-time simulation. On page 38 of tab 2 it states (referring to table 4.10), "Over a 50-years period it is nearly certain that at least one ship would violate a 822-foot horizontal clearance. Likewise, it is nearly certain that at least five large cruise ships would violate a 654-foot horizontal clearance over the same period (actually the table indicates that there will be 5 violations within a 10 year period). And it is nearly certain that at least one ship per year (on average) will exceed 435-foot horizontal clearance." As I read table 4.10 on page 39 that last figure should be 50 and not one. Therefore that last sentence should read And it is nearly certain that at least 50 ships per year (on average) will exceed 435-foot horizontal clearance. Doesn't this figure seem alarming? Well it should and anyone reading such an outrageous figure should question the validity of such a study or model or give pause to restricting the channel width. Giving these unbelievable figures, one really needs to question adding more obstruction in any of the channels or disrupting the flow of traffic by even the slightest amount for fear of actually precipitating these predictions. The study goes on to acknowledge that over a 50-year period there will be 244 (or 4.5 a year) allisions and 3,357 (or 67 a year) diversions because of winds exceeding 11.8 knots given a 550 foot opening for one of the potential bridge designs. I find these statistics incredible and totally unacceptable. I therefore must question the validity, methodology, and veracity of any analysis that makes such devastating predictions and concludes that "These factors would likely result in increased costs of operations for large vessels calling at Ketchikan." I predict that should these predictions be accurate then these factors would likely result in most large cruise ships avoiding the port of Ketchikan due to unacceptable navigation risks.

#### PIANIC STUDY

The same comments concerning the wind component data applies to the

PIANIC study. This study addresses only the passage through the bridge piers and does not take into effect the traffic, flow of traffic, or the time delay of constricting or closing off one of the channels. The other entering argument that concerns me is the "CARGO HAZARD" level being "LOW". This is obviously an environmental concern. I assume if the cargo were LNG, oil, or ammunition then the bridge would have much wider pier openings. The reality of nuclear submarines with ballistic missiles using this waterway and therefore, passing under this bridge (enroute to the Coast Guard facility), must have been wasted on the authors. Also there is no consideration for the comparison of the value of the loss of human life to other environmental hazards. Again I assume that 3000 lives on a cruise ship is a "low" hazard while 3000 barrels of oil on a tanker would be a somewhat higher hazard.

#### BRIDGE DESIGN PARAMETERS

Being a simple sailor and not an engineer, I do not consider myself an expert on bridge design parameters. Albeit, it would appear to me that if this study is the basis for designing a bridge, then we are in for a really interesting time. Using the wind components suggested, not considering two-way traffic, bridge pier openings being determined by limited and questionable analysis, bridge location being determined by political vice navigational considerations, a biased navigational study, and refusal to defer to expert mariners on significant navigational issues will, in my judgement, be the basis for a disaster. We all know that the engineers designing this bridge will not use the ridiculously low wind components used in the simulator. If they did, that bridge would not last one winter season. One would hope that somewhere in the design process, reasonable heads will prevail. If in fact the designers will use different entering arguments then why not use a worse case scenario parameter in the navigational portion of the study rather than averages and means? Below are a few more major concerns:

Bridge alignment to channel. Having a 16 degree misalignment in the East Channel and a 25 degree misalignment in the West Channel and 20 degree misalignment in the North branch of Tongass Narrows is unacceptable for reasons stated in the RTM STAR Technical Memorandum. Bridge alignment should be perpendicular to the channel with the highest portion of the bridge in the middle of the channel. To do otherwise will ultimately confuse some mariner in the future, create a deadly trap and cause an accident. The designers must remember not all users of the channel are licensed pilots and not all users will have local knowledge.

The Glosten study spent an inordinate amount of time determining the width of the bridge piers, comparing them to other bridges, calculating maximum crab angles etc., while all the time acknowledging that the channels involved are very restricted and transits are weather dependent. **The study predicts that with the 550' opening it will be risky to transit under one of the bridges considered, if the winds exceed 11.8 kts.** This finding should be an eye opener for any reader who knows what is involved if a vessel either has to divert from a port call, go around Gravina Island and approach from the other end, or knowingly attempts the transit having knowledge that a grounding or allision has been predicted with the winds cited. It will be interesting to determine how this information will be used in a mariner licensing hearing or an insurance company's investigation after an incident. Will the master and the pilot have a legal leg to defend their decision to make the transit? Having established these predictions, the U.S. Coast Guard or the National Safety Transportation Board or the Alaska Department of Transportation would be justified in making a regulation or strong suggestion that the port will be closed to large vessel traffic when the winds exceed these parameters.

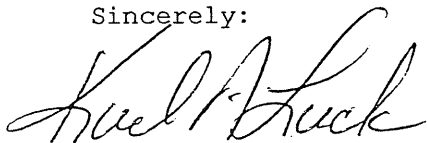
It was also interesting to note that the AASHTO requirements were summarily dismissed because the AASHTO requirements did not fit into the preconceived answer that the authors wanted.

#### MITIGATIONS

Certainly the list of mitigations is not a complete list, but so what. Let's be perfectly clear. **None of these items are included in this project.** They are listed only as things that need to be accomplished to mitigate the change to the flow of traffic in the harbor. The items on the wish list are not a part of the bridge project. The inclusion of the list tends to fool the reader into thinking that they are a part of the project. Almost each and every one of the necessary mitigations would require a study by itself to justify the expense to accomplish it. There is no link that says IF THE BRIDGE IS BUILT THEN THE ROCK WILL BE REMOVED. You should be up front with your readers and state that the bridge may well be built and mariners will have to fight a separate battle for funding and project priority to get any of the mitigating options enacted. A well-planned coordinated effort between state and federal agencies would certainly be too much to be expected.

Wouldn't it be much simpler to build the bridge piers at the water's edge where the water is shallow and construction is easier supported from shore, not restrict the already narrow channel, and not obstruct the flow of traffic in any of the channels by erecting a high enough bridge.

Sincerely:

A handwritten signature in cursive script, appearing to read 'Karl A. Luck'.

Karl A. Luck

cc: USCG COMMANDER 17(OAN), BRIDGE SECTION

**Capt Karl A. Luck USCG (Ret)**  
**108 Huckleberry Circle**  
**Ketchikan, AK 99901**

3 October 2002

Capt. Dale Collins  
SEAPA President  
1621 Tongass Ave., Suite 300  
Ketchikan, AK 99901

Reference: Gravina Access Project; Real Time Navigation Simulation Study  
September 2002

Dear Dale;

In response to your request, the following are my comments after reviewing the referenced document. I found the report biased, lacking in specificity, and misleading not only in process but also in assumptions and determinations. It is obvious that the authors are promoting a specific agenda and are attempting to support this agenda with meaningless and conflicting statistical and mathematical justifications. I found the analysis of the report flawed in that they disprove their own premise or statistical results and attempt to justify this recalculation with anecdotal justification. It was obvious to me that the authors are attempting to justify their previous study and it's recommendation of the inexpensive bridge option that the state wants to build, not the more expensive bridge option that is required so as not to disrupt the flow of commercial traffic through the port of Ketchikan. I suggest that SEAPA strongly disagree with this report and/or require substantial changes in it's presentation.

My specific areas of concern:

1. The RTM STAR Center report is not part of this submission and is buried somewhere not for public review.
2. The comments of the pilots participating in the study are not a part of the report but are buried somewhere not for public review.
3. The report dwells on the pilot's "perception of risk of using West Channel" as compared to statistics developed by the simulation. The comments of Captain Trafford Taylor, Glosten representative, seem to carry more significance than any other observers, instructors, USCG representatives, or the pilots. This is to say that their hired expert's opinions and comments, who has never piloted vessels of the size studied nor piloted in Alaska, no less the Tongass Narrow West Channel, should be viewed by the reader and carry more weight than Alaskan Pilot's comments. Albeit, Captain Taylor states that the risks of the West Channel are "high" and that

removal of navigational hazards is necessary. Are the risks unacceptable or not?

4. When the report states that the "F1 and F3 options are in navigation nominally similar," the authors misrepresent the finding of the simulation. They contradicts this statement by concluding that the West Channel is 24% more risky than the East Channel.

5. No empirical data is presented, only data that is massaged and formed into the result that the authors want to present. The authors extrapolate data to project "potential groundings" and "potential allisions" so as to skew the statistics. They fail to compare actual groundings and actual allisions in qualifying their assumptions. What were the actual numbers of groundings in the East Channel during Real Time Simulation versus actual groundings in the West Channel? While I recall numerous groundings during simulation in the West Channel, I recall only ONE grounding in the East Channel. This fact is not brought out in the report.

6. The study was misguided in its original premises. In my judgment it should have been focused on providing specific recommendations and not burying recommendations in the text. Why weren't recommendations brought out in a Results and Recommendations Section. What the study does provide is a very difficult mathematical analysis which can be challenged only by other experts because of its lack of specificity. For example: What specific hazards are to be removed and therefore must become part of the project?; What specific aids to navigation are incorporated in the project at what locations?; What bridge options are eliminated due to unacceptable hazards or unacceptable risk of allision or grounding? If transiting the West Channel is 24% more risky than transiting the East Channel and the economic cost of just one grounding were established and determined to be unacceptable, then why isn't that bridge option eliminated. If the economic impact of one or more groundings is acceptable so as to provide the economics achieved by having the bridge, then how many groundings over what period of time can occur before the break-even point is reached?

7. The study attempts to project potential groundings into the future for 50 years based on static vessel characteristics. I submit that there are too many variables for such an analysis. No calculation has been made for increased size in vessels, changes to propulsion systems, changes to vessel handling characteristics and the fact that a mixture of vessels uses these channels. The premises they used that larger vessels are more difficult to handle than smaller vessels is inaccurate and flawed. The history of vessels grounding on either California or Idaho rocks is not part of the report. I am sure such information is available from the Coast Guard. If my memory serves me correctly, the USCGC STORIS grounded in this location. The USCGC STORIS is a much smaller vessel than the cruise ships studied but still grounded. My point is that statistics have been manipulated for the purpose of the authors to prove or disprove what-ever they want.

8. The authors would like to disallow two of the simulated groundings in the West Channel. One because it was a result of a non-Alaskan pilot at the conn and the other because the individual was not yet a pilot. However, the study admits that the wind and current models used are not detailed enough to be considered "real world conditions." If this is the case, local knowledge, the only thing Alaskan Pilots brought to the study, was not a factor. The simulation was just using a generic channel and generic conditions and it is only the ship handling skills of the person at the conn that was measured. This being the case, these two groundings must be included in the statistical analysis.

9. The authors would like to skew the results of the simulation based on the pilots' perceived risk in the West Channel, and thereby the pilots exhibited a heightened sense of awareness while conning in the West Channel. One must remember that the simulator is just a computer game no matter how real they try to make it. Of course, with no risk of loss of license or livelihood, no economic impact from failure, no embarrassment to professional reputation and no consequence of taking a risk, pilots transited the West Channel with large cruise ships in the simulation process. However the real world provides consequences for taking such risks, and in the real world the consequences and economic impact of failure prohibits such decisions. Recent history has illustrated that one grounding each resulted in the loss of livelihood for the pilots involved.

10. Groundings and accidents cannot be projected with any accuracy because the variables are not only numerous but also significantly different. Unrelated factors such as human error, environmental conditions, mechanical failures, and any combination or extreme conditions of each factor, creates meaningless statistical data. Albeit, the study attempts to quantify that there is more potential of groundings in the East Channel vice the West Channel, but then disallows this prediction by stating that no groundings have occurred in the East Channel. These statements alone should bring into question the validity of the methods employed in the study.

I expected a more straight forward study that resulted in specific recommendations. I expected that the study would have set a standard for acceptable hazards versus unacceptable hazards. It would have been more instructive to analyze the effects of recent cruise ship groundings in Alaska, such as the groundings of the Star Princess on Poundstone Rock and the grounding of New Amsterdam on Gravina Point. Comparing aspects of the groundings to similar elements can be quantified in economic terms or dollar amounts. Suggested, but not all inclusive, categories should have been the actual:

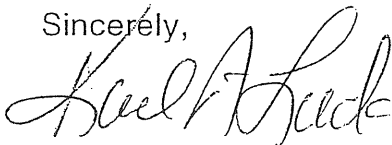
1. Cost of repairs to the vessels including the cost of removing the vessel and/or responding to groundings by government agencies and companies involved. Cost of removing passengers and returning them to their homes.
2. Loss of revenue to the company due to absence of the vessels during

repairs.

3. Loss of revenue to the communities that were not visited because of the accident. Potential dollar loss to communities due to restricting navigational access blocked by the accident.
4. Cost of the legal actions taken by passengers, the companies and other involved parties.
5. Resulting action taken against the pilots, the masters and the mates involved. Quantify these actions in economic terms. (The fact is both pilots involved in these accidents never piloted again as a state pilot as a result of these accidents.)
6. The cost of environmental impact reduced to economic terms.

The authors could have established the economic impact of just one grounding at any location. An analysis could then be made of the economic impact of any future grounding at any proposed bridge location. As a result of this type of analysis, the authors may have also realize the reluctance of pilot to conn any large vessel in the West Channel without mandatory improvements being made to the navigational channel.

Sincerely,

A handwritten signature in cursive script, appearing to read "Karl A. Luck".

Capt Karl A. Luck USCG (Ret)



January 21, 2003

Mr. Roger Healy, P.E.  
Engineering Manager  
State of Alaska DOT  
6860 Glacier Highway  
Juneau, AK 99801-7999

Dear Mr. Healy,

I was one of the SE Alaska pilots present at the RTM STAR CENTER during the Real Time Navigation Simulation Study for the Gravina Access Project. In fact, I was there for all three weeks to take part in, and witness, the entire study.

It was my understanding going to Dania that we were not there to prove, or disprove, the feasibility of any of the bridge options. We were there to provide ship-handling expertise under varied conditions, and to provide our local knowledge as to what we felt those conditions should include.

The four ships used in the study ranged in size from 893' to 1020' and were similar to the current generation of large cruise ships we see in SE Alaska now, or expect to see in the near future.

What I witnessed in Dania was that zero out of 50 ships grounded during the simulations in East Channel. Zero out of 35 simulations through the North Channel ended in groundings. But, out of 60 transits of the West Channel 5 times the simulator stopped due to vessel groundings, with another ship seconds from grounding on Pennock Island when its simulation run was stopped. Even if not counting that as a sixth, the West Channel transits with these ships were shown to be extremely more risky and unsafe than were the transits through East Channel or the North end. Not 24% more risky than East Channel or "navigation nominally similar" as the Glosten report contends, but tremendously more risky and unsafe. This should be the "primary conclusion of the real-time simulation project". With or without a bridge across West Channel, it is not a waterway that 900' and larger ships can safely transit on a regular basis. This is the primary conclusion that this study requires. The safe navigation of 900' passenger vessels is inherently zero tolerance. Effectively 6 groundings out of 60 transits do not meet this requirement.

Please note that in none of these transits was there a simulated steering or engine failure, difficult traffic, some other emergency problem, an unexpected wind shift, or something that has "gone wrong". In that sense all the simulated transits were "error-free". The groundings were the result of a ship's necessity to

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steer off its course to counteract set caused by wind and current. The study showed there is not enough room to safely do this on a regular basis in West Channel with these ships. In the event that a chosen bridge option closes off either East Channel or the North end to these size ships, the idea that the ships can safely transit the West Channel instead is seriously flawed. The results of the simulation study clearly show this.

I would like to correct some factual errors as stated in the Glosten report. A study based on facts should report them correctly. There were actually nine Region 1 licensed pilots that participated in the study, not ten. The actual dates of the study were April 29 to May 3, May 13 to May 17, and May 20 to May 24, not May 1 through May 22. The Carnival Spirit, one of the ships used in the simulations, is 86,000 gross tons, not "over 100,000 GRT" as the Glosten report states. Five times the simulation actually stopped in West Channel due to groundings, not 2 as the Glosten Report reads. These examples may seem moot to some, but it causes me concern about what seems like approximations in the Glosten report. Are there other approximations in their report?

Mr. Healy, the point of the pilots asking for the inclusion of Nichols Passage transits in the study was not because of a shorter distance to Seymour Narrows. Ships are increasingly using Nichols Passage, and going outside, because it gets them far enough offshore to pump their gray water and black water tanks overboard.

As far as the West Channel groundings, Glosten mentions two, both of which are downplayed in their report as "not representative" based on the experience of the person conning at the time. These two individuals were either an important part of the entire study, or none of it. Much was made in the Glosten report of the degree of risk and difficulty the STAR Center pilot felt in these channels, and yet when a vessel he was conning grounded it becomes "not representative". It disturbs me that in one part of the report his input is vital, but in another it is "not representative". Five times ships grounded in West Channel. That seems pretty representative of the entire study to me.

There is an additional piece of data from the study that I would like to see. The Glosten report cites three "near miss groundings" in East Channel that were within 75' of a 5 fathom area. To balance the report, how many "near miss groundings" within 75' of a 5 fathom area occurred in the North Channel and West Channel transits?

At least partly this study was to assess risk. One of Glosten's own representatives at the study, Captain Trafford Taylor, is quoted in the Glosten report as stating that risk in the West Channel goes up "exponentially" when winds get above 20 knots. I have gotten copies of the wind records from the Ketchikan airport as well, and recorded winds in excess of 20 knots are not at all uncommon in this data. In fact, they are very common. Taking "exponential" risk,

with lives and the local environment, is not what the State of Alaska had in mind when they licensed me as a pilot. If a waterway or situation is "exponentially" risky, as a pilot I can't go there.

Respectfully,

*James B. Cathcart*

Capt. James B. Cathcart

Cc: Mr. J.N. Helfinstine  
Capt. Dale Collins

October 21, 2002

Mr. Roger Healy, P.E.  
Engineering Manager  
State of Alaska DOT  
6860 Glacier Highway  
Juneau, AK 99801-7999

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Channel with these ships. In the event that a chosen bridge option closes off either East Channel or the North end to these size ships, the idea that the ships can safely transit the West Channel instead is seriously flawed. The results of the simulation study clearly show this.

I have read the Glosten report dated September 2002 on this Real Time Study, and I must say a few things disturb me. In the first four pages of Glosten's report they refer the reader five different times to the companion report of RTM STAR Center. Your office has not released the complete RTM STAR Center report for review. This many references at the beginning of one report to another companion report indicates to me that the authors of the Glosten report believed any reader would also have the RTM STAR Center report. It is impossible to refer to something you do not have. The RTM STAR Center is an internationally known and respected facility. They were chosen to conduct this study for that very reason. I, or anyone else reviewing this study, need to have access to both these reports to constructively comment on either. I believe that your office must release the complete, unedited RTM STAR Center report before a thorough review of this study can be completed. It is important that your office release their complete report.

I would like to correct some factual errors as stated in the Glosten report. A study based on facts should report them correctly. There were actually nine Region 1 licensed pilots that participated in the study, not ten. The actual dates of the study were April 29 to May 3, May 13 to May 17, and May 20 to May 24, not May 1 through May 22. The Carnival Spirit, one of the ships used in the simulations, is 86,000 gross tons, not "over 100,000 GRT" as the Glosten report states. Five times the simulation actually stopped in West Channel due to groundings, not 2 as the Glosten Report reads. These examples may seem moot to some, but it causes me concern about what seems like approximations in the Glosten report. Are there other approximations in their report?

As far as the West Channel groundings, Glosten mentions two, both of which are downplayed in their report as "not representative" based on the experience of the person conning at the time. These two individuals were either an important part of the entire study, or none of it. Much was made in the Glosten report of the degree of risk and difficulty the STAR Center pilot felt in these channels, and yet when a vessel he was conning grounded it becomes "not representative". It disturbs me that in one part of the report his input is vital, but in another it is "not representative". Five times ships grounded in West Channel. That seems pretty representative of the entire study to me.

There is an additional piece of data from the study that I would like to see. The Glosten report cites three "near miss groundings" in East Channel that were within 75' of a 5 fathom area. To balance the report, how many "near miss groundings" within 75' of a 5 fathom area occurred in the North Channel and West Channel transits?

At least partly this study was to assess risk. One of Glosten's own representatives at the study, Captain Trafford Taylor, is quoted in the Glosten report as stating that risk in the West Channel goes up "exponentially" when winds get above 20 knots. I have gotten copies of the wind records from the

Ketchikan airport as well, and recorded winds in excess of 20 knots are not at all uncommon in this data. In fact, they are very common. Taking "exponential" risk, with lives and the local environment, is not what the State of Alaska had in mind when they licensed me as a pilot. If a waterway or situation is "exponentially" risky, I can't go there.

Respectfully,

Capt. James B. Cathcart

Cc: Mr. J.N. Helfinstine

**A Concluding Memo re: the Glosten Associates' Real Time Navigation Simulation Study**

**Captain John M Baldry, SE Alaska Pilot, P.O. 23366, Ketchikan AK 99901  
1/27/03**

Some two weeks ago I received the RTM Star Center Report of the "Ketchikan Bridge Project", previously while waiting for this report, I submitted an interim memo dated 10/6/02, also comments ( 5/11/02) and an outline (2/19/02). The following is a short summation of my final conclusions.

I believe it has become important that the public realize that the pilots of SE Alaska are not opposed to a Bridge to Gravina Island. We have unique experience of handling very large ships in the waters of Tongass Narrows and we do have a considered judgement of the navigational risks and efficiencies involved in the options considered. We are unanimous in our opinion that if a low bridge closes East Channel to large ships there will be significant additional risks, and also significant delays will result from the re-routing of all the large ships through the West Channel. It is not a question whether the ships can be maneuvered through the West Channel, at issue is the impact on safety, efficiency and economic considerations: Ketchikan's important cruise ship trade seems vulnerable on all counts.

- After the initial statistical modeling through each channel by Glosten and then the 114 Real Time Ship Simulation runs with 10 SE Alaska pilots at the STAR Center, a Report by Glosten was drafted dated 9/20/02. The Glosten Report concludes on page 47 that: - the comparative risk of potential groundings and allusions when using West Channel at its narrowest point is estimated to be 24% greater than the risk of transiting East Channel. The beginning of the Glosten Report (page ii) states that "its primary conclusion of the real-time simulation is that there is a significant difference in the perception of risk using West Channel and the statistics of risk based on pilot performance in West Channel". It seems to me that Glosten's conclusion on page 47 that there is a 24% greater risk attached is exactly what the Alaska Pilots are concerned about. This accounts for and validates our "perception of higher risk".

Many pilots (if not all) who attended the excellent facilities at the STAR Center Simulator had some reservations about the Simulator model. I found during the second week, that some of the extensive shoaling off Pennock Reef had not been included. Most of us felt that the currents in West Channel were not accurate enough and this belief was validated in a recent deep draft ship transit through West Channel by several pilots last Fall. It is disappointing to see that the Glosten Report and appendices still question our collective observations of wind conditions in the channels. I can vouch that 50 knots-plus winds can occur on any month of the year here (it was 80 knots-plus this August).

It must also be argued that there may be a significant bias in the development of the model simulation and also in the Glosten Final Report. For example:

1. The actual measured runs were arbitrarily short approaches to the proposed bridge and were very much simpler than the real-life run in toto. A more realistic comparison would have been achieved by using the same starting and ending points for the transit of both channels e.g. Mountain Point or Blank Is. to the dock via East or West Channel.
2. In the second week at least, the initial Real Time runs were made first through the East Channel so that the West Channel had the benefit of any practice effect.
3. The Report states that there were 2 Real Time run "groundings of interest", both were in West Channel". Both were dismissed by the authors as statistically irrelevant (page 19).
4. The very real constraints of traffic and congestion on the navigational margin available to each ship passing singly through the bridge, in either direction, are not addressed at all. I believe that the "queuing effect" will result in significant delays to the users. At no time in the study has the traffic congestion problem been addressed (see STAR Report p 13)

5. A number of other mitigating items have been added and offered by Mr. Healy in his cover letter of September 20 but these items cannot be considered to have any standing as part of the official study.

A great deal of effort has gone into this project by many parties. My colleagues are providing significant pertinent details of our concerns.

The Glosten Report disparaged the pilots' perceptions but was not accompanied by the frequently referenced STAR Report. Now, finally, with the publication of the STAR Report, we see in the Summary Overview that the STAR Center concludes on page 20 that "Apprehensions and concerns of participating pilots were, for the most part borne out by simulation."

John M. Baldry 907 225-3884 or 360 561-5432 (cell)



**An Interim Note re: the Glosten Associates' Real Time Navigation Simulation Study**  
**Prepared by Captain John M Baldry, SE Alaska Pilot, P.O. 23366, Ketchikan AK 99901**  
**10/6/2002**

I believe that the pilots of SE Alaska are not opposed to a Bridge to Gravina Island. We have unique experience handling large ships in the waters of Tongass Narrows and we do have a considered judgement of the navigational risks and efficiencies involved if a low bridge closes East Channel to large ships. We are unanimous in our opinion that significant additional risks and delays will result from routing all the large ships through the West Channel. It is not a question whether the ships can be maneuvered through the West Channel, at issue is the impact on safety, efficiency and economic considerations: Ketchikan's cruise ship trade seems vulnerable on all counts.

After the initial statistical modeling through each channel by Glosten and then the 114 Real Time Ship Simulation runs with 10 SE Alaska pilots at the STAR Center, a Report by Glosten was drafted dated 9/20/02. This was circulated without the frequently referenced STAR Report of the same exercises, and which additional Report is necessary for us to review.

The Glosten Report concludes on page 47 that: - the comparative risk of potential groundings and allusions when using West Channel at its narrowest point is estimated to be 24% greater than the risk of transiting East Channel. The beginning of the Glosten Report (page ii) leads that "its primary conclusion of the real-time simulation is that there is a significant difference in the perception of risk using West Channel and the statistics of risk based on pilot performance in West Channel". It seems to me that Glosten's conclusion on page 47 that there is a 24% greater risk attached is exactly what the Alaska Pilots are concerned about. This accounts for and validates our "perception of higher risk".

Many pilots (if not all) who attended the excellent facilities at the STAR Center Simulator had some reservations about the Simulator model. I found during the second week, that some of the extensive shoaling off Pennock Reef had not been included. Most of us felt that the currents in West Channel were not accurate enough. It is disheartening to see that the Report even questions our collective observations of wind conditions in the channels. I can vouch that 50 knot plus winds are not unheard of for any month of the year here (it was 80 knots plus this August).

It must also be argued that there may be a significant bias in the development of the model simulation and also in the Final Report. For example:

1. The actual measured runs were just of arbitrary short approaches to the proposed bridge and were very much simpler than in real life in toto. A more realistic comparison would have been achieved by using the same start and ending points for the transit of both channels e.g. Mountain Point or Blank Is. to the dock.
2. In the second week at least, the initial Real Time runs were made on the East Channel so that the West Channel had the benefit of any practice effect.
2. The Report states that there were 2 Real Time run "groundings of interest", both were in West Channel". Both were dismissed by the authors as statistically irrelevant (page 19).
3. The very real constraints of traffic and congestion on the navigational margin available to each ship passing singly through the bridge, in either direction, are not addressed at all.
4. A number of other mitigating items have been added and offered by Mr. Healy in his cover letter of September 20 but these have not standing as part of the official report.

A great deal of effort has gone into this project by many parties. However the Glosten Report has been circulated so late in the review process and is not accompanied by its frequently referenced STAR Report so that we cannot make a fully informed concluding statement at this time. We must first see the STAR Report and then have 30 days to prepare a final statement.

**To:** Mr. Roger Healey, Project Engineer  
State of Alaska – DOT&PF  
6860 Glacier Highway  
Juneau, Alaska 99801

January 24, 2003

**Thru:** Capt. Dale Collins, President  
SE Alaska Pilot's Association  
1621 Tongass Ave. Ste. #300  
Ketchikan, AK. 99901

**From:** Captain Erv Hagerup  
3425 S. 176<sup>th</sup> St. #237  
Seattle, WA. 98188-4078

Concerning the  
Gravina Access Project

---

Mr. Healey,

I have received and reviewed the final draft of the Gravina Is. Access Project Report.

This Report reflects and confirms the opinions held previously by myself and others.

I noted on page 12 of the report, it is stated that there were no instances of a vessel colliding with the Bridge supports.

I would point out that on at least one occasion and possibly two, this scenario was avoided simply because the simulation was stopped prior to collision. The ship which was under the command of Capt. V. Boricochea from STAR Center, with myself acting as Pilot for that simulated run, southbound in East Channel from Berth 1A, closed the stern of the vessel to within 75ft of the East Channel Bridge abutment. The rate of turn was over 20 degrees per minute to Starboard with a hard a Port Rudder order on. The only reason there was no collision or at best, a grounding on the other side of the Bridge, was due to the fact the simulation was stopped once the Vessel's Navigation Bridge cleared under the main span. Possibly there could have been a recovery but since the simulation was stopped, we will not know. In my estimation, an accident would have occurred had the simulation continued.

That said, I feel this report makes clear that a high bridge option (F1) over the East Channel is the clear choice if a bridge is to be built.

Of all the Pilots in attendance, I was the only one with considerable experience using West Channel in all weathers, and conditions on a weekly basis for more that 20 years. I feel comfortable in saying, that routing all traffic through West Channel due to restricting East Channel with Option (F3), would be an economic mistake for the City of Ketchikan and an increased danger of grounding and operational delays for large vessels visiting the Port of Ketchikan.

The simulations we used to evaluate West Channel did not vary realistically and remained predictable throughout the transit. Bank suction and cushion which would be very evident there, did not come into play.

In my personal and professional view, if this project is to be done, then Option (F1) the high bridge over East Channel, is the only sensible choice to make here.

I did note in the report a tendency by the Glosten Evaluators to voice their puzzlement at the difference in successful West Channel transits by Pilots versus a finding by Glosten that the F1 and F3 options in transits are nominally similar in the study.

I find this easy to explain. While in West Channel, we just ran out of maneuvering options and trusted to God that you were lined up. Once you were lined up then the currents were predictable and you could concentrate on holding the course. In reality, I would expect the vessel to shear to Port or Starboard as the bows came into the narrow part of the Channel. At this point, the Pilot would have very little option to correct the situation. However, in East Channel, you could continue to make rudder adjustments during the entire maneuver under the bridge span.

I have to disagree with the opinion that West Channel was well modeled. Traffic was not present, currents were predictable because each transit set the same way every time. Pilots are trained to watch for these differences and adjust. The real situation currents change with the tide. The model only did it one way and it was easy to memorize the run through there. It was predictable.

In a simulator, a Pilot can try things he never would try in the real world and we did.

Another question came up with puzzlement over the difference in transit times to Seymour Narrows. Well, the distances from South Pennock Is are similar for both channels, but I believe the mentioned delays would be leaving the harbor. With two vessels at anchorage and three at the dock, all vessels would have to leave in strict order. Should the first vessel have a problem with getting underway, well the whole harbor would be blocked. A high wind would make it impossible for any vessels to leave until the wind died down. There would be no options except to avoid Ketchikan on marginal weather days. Presently, East Channel allows vessels to proceed southbound without turning around in the Harbor.

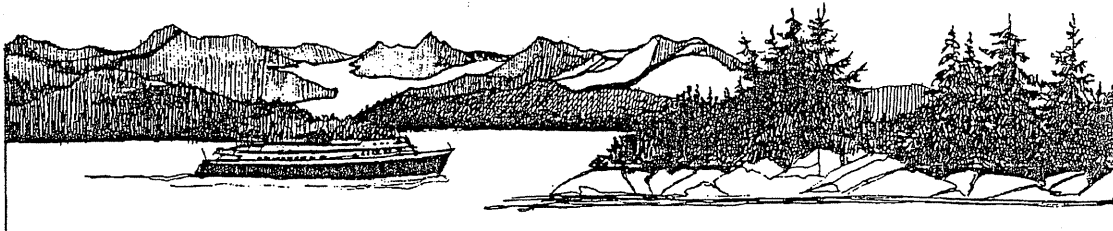
I disagree with the opinion that a VTS operation would suddenly make it ok for the Pilot to go through the West Channel. Is VTS going to order a Pilot to go through when the Pilot determines it is not a safe maneuver? I don't think so.

In conclusion, I understand the need to give all options an equal opportunity but I caution against bending over backwards to make (F3) work simply because it is the least expensive proposal. You get what you pay for and I feel, if the decision is made to block East Channel, then the long term health of the economy of Ketchikan will be adversely affected.

I own property in Ketchikan and believe this project deserves to be done right.

Respectfully Submitted, I am

Capt. Erv Hagerup  
Marine Pilot #0078



**Capt. JF. Baken P.O. Box 8751 Ketchikan, AK 99901**

Mr. Roger Healy  
Engineering Manager  
State of Alaska DOT  
6860 Glacier Highway  
Juneau, Alaska 99801-7999

January 29, 2003

Re: Glosten Associates' *Real Time Navigation Simulation Study* and Star Center's companion report

Dear Mr. Healy,

Please consider this follow-up to my letter of November 11, 2002, commenting on the Glosten Associates' *Real Time Navigation Simulation Study*. In November, I had not received a copy of the Star Center's companion report; however, I've recently had the opportunity to review that document and would like to add the following comments.

The Star Center report makes it very apparent that the West Channel/F3 bridge option is not safe. The report states,

“apprehensions and concerns of the participating pilots (about the West Channel/F3 bridge option) were, for the most part, borne out” and

the “narrowing of a navigable waterway (the West Channel), especially at a time when cruise vessel size seems ever increasing, should be considered carefully”.

The report catalogs numerous problems, encountered during simulation, which demonstrate that the West Channel/F3 bridge option is unsafe:

- The planned F3 bridge crosses the West Channel at an oblique angle of 25 degrees; in addition, the center of the span is not aligned with the center of the channel. The result is that the effective width of the channel is reduced.
  - During simulation, ships passing safely through the bridge opening were required to pass very close to the Pennock Island side of the channel, where the bank is very steeply inclined.
  - Additionally, shoaling on the Gravina side produced a current that tended to set the ships across the channel.
    - To counter this set and maintain good directional control, pilots had to “crab” their vessels and maintain speeds in excess of 10 knots.
      - Both of these actions occurred in a channel with insufficient width to carry the crab angle and in a 7 knot speed limit zone.
  - There was no margin for error in a channel that is only three-ship-widths wide.
    - Factors such as wind gusts, engineering casualties, helm errors, or opposing traffic could not be accommodated.
  - The cable area in the West Channel restricted the use of anchors in an emergency.
- Ships were required to make a very large turn at the north end of Pennock Island, going to- and from the docks.
  - This exposed the vessels to extreme environmental conditions, at very slow speeds, in a confined anchor area,
  - And contributed to an observable 45-60 minute delay.

The Star Center report concluded that their observations were reached by “considering navigation issues only” and recommended that vessels not be allowed to transit the West Channel when winds exceed 20 knots. Finally, under the heading of “Advantages of the West Channel/F3 Bridge Option”, the report listed “None”.

I'll close by repeating the final paragraph from my November letter, "I must state unequivocally, that **the West Channel (option F3) is much too risky to consider as a viable option.** As a marine pilot, charged with the protection of Alaska's pristine waters, I would be forced to advise ship masters and shipping companies to avoid West Channel."

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "JF Baker". The signature is written in dark ink and is positioned above the printed name.

Capt. JF. Baken

Cc: Mr. Jim Helfinstine, USCG

To: Mr. Roger Healey, Engineering Manager  
State of Alaska – DOT&PF  
6860 Glacier Highway  
Juneau, Alaska 99801

January 24, 2003



Thru: Capt. Dale Collins, President  
SE Alaska Pilot's Association  
1621 Tongass Ave. Ste. #300  
Ketchikan, AK. 99901

From: Captain Erv Hagerup  
3425 S. 176<sup>th</sup> St. #237  
Seattle, WA. 98188-4078

Concerning the  
Gravina Access Project

---

Mr. Healey,

I have received and reviewed the final draft of the Gravina Island Access Project Report.  
This Report reflects and confirms the opinions held previously by myself and others.

I noted on page 12 of the report, it is stated that there were no instances of a vessel colliding with the Bridge supports. I would like to point out that on at least one occasion and possibly two, this scenario was avoided simply because the simulation was stopped prior to collision.

The ship, which was under the simulated command of Capt. V. Boricochea from STAR Center, acting as the ship's Master, and myself acting as Pilot for that simulated run, had what I would call a close encounter with the East Channel (F1) Bridge. We were southbound in East Channel from Berth 1A, and the stern of the vessel closed to within 75ft of the (F1) Bridge east abutment. The rate of turn was over 20 degrees per minute to Starboard with "hard a Port" Rudder order on. The only reason there was no collision or at best, the vessel grounding on the other side of the Bridge, was due to the fact the simulation was stopped once the Vessel's Navigation Bridge cleared under the main span. Possibly there could have been a recovery but since the simulation was stopped, we will not know. In my estimation, an accident would have occurred had the simulation continued.

Now with that said, I feel this report makes clear that a high bridge option (F1) over the East Channel is the clear choice, if a bridge is to be built. I cannot endorse a low Bridge (F3) option.

Of all the Pilots in attendance, I was the only one with considerable experience using West Channel in all weathers, and conditions on a weekly basis for more than 20 years. I feel comfortable in saying, that routing all traffic through West Channel due to restricting East Channel with Option (F3), would be an economic mistake for the City of Ketchikan and an increased danger of grounding and operational delays for large vessels visiting the Port of Ketchikan.

The simulations we used to evaluate West Channel, in my opinion, did not accurately reflect the local conditions and remained predictable throughout the transit. Bank suction and cushion which would be very evident there, did not come into play.

I did note in the report a tendency by the Glosten Evaluators to voice their puzzlement at the difference in successful West Channel transits by Pilots versus a finding by Glosten that the F1 and F3 options in transits are nominally similar in the study.

OCT-09-2002 03:37 AM

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P. 01



**Alaska Coastwise Pilots Association**  
**P.O. Box 23367**  
**Ketchikan, Alaska 99901-8367**

**Marine Pilotage  
Dispatch Service**

**Telephone: (907) 225-7245**  
**Fax: (907) 247-4568**

October 8, 2002

Mr. Roger K. Healy, P.E.  
State of Alaska  
Department of Transportation and Public Facilities  
Design and Engineering Services Division  
6860 Glacier Highway  
Juneau, AK 99801-7999

Dear Mr. Healy,

Thank you for forwarding the two copies of the *Real Time Navigation Simulation Study* produced by Glosten Associates. We notice, however, that you did not forward the companion report produced by Star Center. We feel it is important for us to review Star Center's report in order to provide meaningful, comprehensive comment on the whole process of the simulation study.

Your letter of October 1, 2002, asks us to review and comment by October 10. Unfortunately, many of our pilots have scattered to the four winds on vacations and other pursuits for the off-season. It will take time for us to gather their comments and collate them into an appropriate response.

For the interim, we respectfully request an extension on the comment and review period, for a period of 30 days commencing upon receipt of the *Star Center Report*.

Respectfully submitted,

Captain David A. Gray  
President

Cc: Mr. J.N. Helfinstine  
Seventeenth Coast Guard District



# STATE OF ALASKA

6860 GLACIER HIGHWAY  
JUNEAU, ALASKA 99801-7999  
PHONE: (907) 465-1821  
FAX: (907) 465-4414

DESIGN & ENGINEERING SERVICES DIVISION  
SOUTHEAST REGION - DESIGN

October 1, 2002

Captain Dale Collins  
Southeast Alaska Pilots Association  
1621 Tongass Avenue  
Suite 300  
Ketchikan, AK 99901

Subject: Gravina Access Project, Review of the Star Center Report

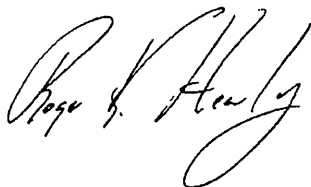
Dear Captain Collins:

Last week, a representative of HDR Alaska dropped off two copies of the Star Center Report for your review and comments. As you know, we have released this report only to the two Ketchikan Pilot Associations and to the U.S. Coast Guard because of an agreement to seek your review before public distribution of the report. Because the public and other groups are eager to see the results of the Star Center simulations, the first purpose of this letter is to ask *that I receive your comments on the Star Center Report no later than Thursday, October 10.* After we receive your comments, we can then review the comments and make any necessary changes to the document so that we can release the report to the public.

The second purpose of this letter is to reiterate that, per our agreement, *the information contained in the report is confidential and should not be shared with anyone outside your organization.* I certainly cannot stress this point enough and am grateful for your cooperation in this matter.

Please contact me at 907/465-1821 (or [roger\\_healy@dot.state.ak.us](mailto:roger_healy@dot.state.ak.us)) if you have questions about the report. Thank you for your continued participation in this important project.

Sincerely,



Roger K. Healy  
Engineering Manager

CC: Mark Dalton, HDR Alaska

# STATE OF ALASKA

6860 GLACIER HIGHWAY  
JUNEAU, ALASKA 99801-7999  
PHONE: (907) 465-1821  
FAX: (907) 465-4414

DESIGN & ENGINEERING SERVICES DIVISION  
SOUTHEAST REGION - DESIGN

October 1, 2002

Captain David Gray  
Alaska Coastwise Pilots Association  
PO BOX 23367  
Ketchikan, AK 99901

Subject: Gravina Access Project, Review of the Star Center Report

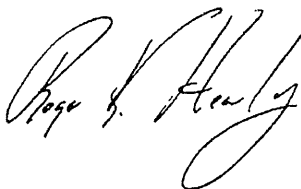
Dear Captain Gray:

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Please contact me at 907/465-1821 (or [roger\\_healy@dot.state.ak.us](mailto:roger_healy@dot.state.ak.us)) if you have questions about the report. Thank you for your continued participation in this important project.

Sincerely,



Roger K. Healy  
Engineering Manager

CC: Mark Dalton, HDR Alaska

Post-it® Fax Note 7671		Date 4/18/02	# of pages 1
To Roger Healy	From Mark Dalton		
Co./Dept.	Co. HOK Alaska, Inc.		
Phone #	Phone # 907-274-2000		
Fax # 465-4414	Fax #		

6860 GLACIER HIGHWAY  
JUNEAU, ALASKA 99801-7999  
PHONE: (907) 465-1821  
FAX: (907) 465-4414

DESIGN & ENGINEERING SERVICES DIVISION  
SOUTHEAST REGION - DESIGN

April 17, 2002

Captain Dale Collins  
Southeast Alaska Pilots Association  
1621 Tongass Avenue  
Suite 300  
Ketchikan, AK 99901

Subject: Gravina Access Project, Simulations of Transits through Tongass Narrows

Dear Captain Collins:

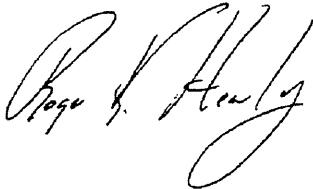
As we've discussed, the Alaska Department of Transportation and Public Facilities (DOT&PF) is planning to conduct real-time full-mission simulations of cruise ship transits through Tongass Narrows to characterize the potential impacts of the Gravina Access Project alternatives on marine navigation. This letter is a follow-up to an April 2 correspondence requesting assistance from your association in the simulation process for the Gravina Access Project.

Since the last letter, the dates have changed as a result of scheduling difficulties at the Star Center; the simulations are currently scheduled for three separate weeks: April 29-May 3, May 13-17, and May 20-24. I am requesting that two pilots be present for all three weeks, but I understand that because of scheduling conflicts, more than two pilots may be required. I realize the inconvenience this rescheduling may cause; this work is important for the completion of the project's Draft Environmental Impact Statement, and proposed completion dates for that document will not allow the simulations to be postponed until after the cruise ship season. Please present your plan for accommodating this schedule to Mark Dalton or myself so that we can evaluate our options.

Because a full-mission simulator operates in real-time, it takes a considerable amount of a marine pilot's time to use real-time full-mission simulation methods. Understanding the value of the marine pilots' time, the DOT&PF is proposing to compensate participating pilots by reimbursing all reasonable direct travel expenses (travel, lodging, food, rental car) and by providing compensation in the amount of \$300 per pilot per day. I cannot stress enough how important these simulations are to the project and I sincerely hope that you find these terms satisfactory.

Please contact Mark Dalton of HDR Alaska at 907/274-2000 (or mdalton@hdrinc.com) or myself at 907/465-1821 (or roger\_healy@dot.state.ak.us) at your earliest convenience to confirm whether or not the schedule works for you and what marine pilot(s) will be assisting us with this endeavor. Thank you for your continued support of this important project.

Sincerely,

A handwritten signature in black ink, appearing to read "Roger K. Healy". The signature is fluid and cursive, with the first name "Roger" and last name "Healy" clearly distinguishable.

Roger K. Healy  
Engineering Manager

CC: Mark Dalton, HDR Alaska  
John Hansen, Northwest Cruise Ship Association

# STATE OF ALASKA

TONY KNOWLES, GOVERNOR

## DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

DESIGN & ENGINEERING SERVICES DIVISION  
SOUTHEAST REGION - DESIGN

6860 GLACIER HIGHWAY  
JUNEAU, ALASKA 99801-7999  
PHONE: (907) 465-4428  
TEXT: (907) 465-4647  
FAX: (907) 465-4414

September 9, 1999

Sea Pilots, Inc.  
1621 Tongass Avenue  
Suite 300  
Ketchikan, AK 99901

Subject: Ketchikan-Gravina Access Project

Dear Interested Party:

File Copy 07072 - 144

File Topic 1 4.1.2 ☐  
File Topic 2 \_\_\_\_\_ ☐  
File Topic 3 \_\_\_\_\_ ☐  
File Topic 4 \_\_\_\_\_ ☐  
File Topic 5 \_\_\_\_\_ ☐  
Chron # \_\_\_\_\_

As many of you know, the US Congress provided funding available in the Transportation Equity Act for the 21<sup>st</sup> Century (TEA-21), for a project to improve access between Ketchikan on Revillagigedo Island and neighboring Gravina Island. The Federal Highway Administration (FHWA) has made this funding available to the Alaska Department of Transportation and Public Facilities (DOT&PF) for the Gravina Access Project.

While improved access has been studied in the past, TEA-21 provides sufficient funding for the Gravina Access Project to conduct the evaluation of access alternatives required under the National Environmental Policy Act (NEPA) process. Funding is also available to design and begin construction of the preferred alternative that FHWA approves as a result of the NEPA process. The project schedule is:

1. NEPA & permitting: 1999 — 2001
2. Design: 2001 — 2002
3. Project construction: 2002 — 2004

DOT&PF has retained the services of HDR Alaska to prepare the NEPA document, design the preferred alternative, and oversee the construction. HDR Alaska brings to this project a unique balance of transportation and environmental professionals experienced in developing Alaska infrastructure projects. Specifically, HDR offers:

- The most recent EIS obtained for a new Alaska road (the Whittier Access Project)
- Specialty bridge design and marine systems expertise
- A local Ketchikan project office.

HDR's Eric Keen, P.E. is the program manager and will provide project oversight throughout all phases. HDR's Mark Dalton is the project manager and will coordinate the NEPA process. Work begins with an agency scoping meeting September 27 in Juneau and a public scoping meeting in Ketchikan October 6. Mark and Eric can be reached in Juneau at 586-9833 or toll-free outside Juneau at 1-888-520-4886.

The DOT&PF and our consultant HDR Alaska will do everything possible to involve affected or potentially affected individuals, groups, corporations, institutions, agencies, and public officials in this important project. We will be providing you project information and asking for your input in the near future when we begin a series of scoping meetings. I encourage your participation; please contact me at 465-4411 or Reuben Yost, the DOT&PF Regional Environmental Coordinator, at 465-4498 for more information.

Sincerely,



Al Steininger, P.E.  
Project Manager

Attachment - Project Vicinity Map

# STATE OF ALASKA

## DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES

DESIGN & ENGINEERING SERVICES DIVISION  
SOUTHEAST REGION - DESIGN

TONY KNOWLES, GOVERNOR

6860 GLACIER HIGHWAY  
JUNEAU, ALASKA 99801-7999  
PHONE: (907) 465-1821  
FAX: (907) 465-4414

April 03, 2002

John Hansen  
President  
North West Cruiseship Association  
Box 12105, Harbour Centre  
1550-555 West Hastings Street  
Vancouver, B.C. V6B 4N6  
Facsimile (604) 681-4364

Subject: Gravina Access Project, Project No. 67698

Dear John:

Now that the public comment period has largely concluded, we at DOT&PF want to follow-up with you on the Cruise Lines' commitment to assist us with the staffing and completion of the full mission simulations of the Gravina Access Project alternatives at the Star Center in Dania, Florida. We are currently scheduled to conduct this work the week of April 29. The complete run of simulations is expected to last 10 days. Due to competing schedules, the simulations are scheduled for the evenings between 5:30pm and 11:30pm. I have attached the draft matrix of full-mission simulation scenarios for your review. I'd like to request that you review the scenarios to ensure that we have captured all of the important issues and included all of the variables necessary to make the simulations comprehensive and successful.

Due to time constraints, I need to ask that you review the proposed simulation scenarios and return your comments to me as quickly as possible. Please email your comments and suggestions to me at [roger\\_healy@dot.state.ak.us](mailto:roger_healy@dot.state.ak.us) and Mark Dalton at [mdalton@hdrinc.com](mailto:mdalton@hdrinc.com) no later than Monday, April 9, 2002.

These simulations are critical to the efficacy of the simulation effort and your input is invaluable. I want to personally thank you for your assistance with this important project.

Please feel free to contact me at (907) 465-1821 if you have any questions or concerns.

Sincerely,

Roger Healy, P.E.  
Project Manager

ENC  
Cf: Mark Dalton, HDR Alaska  
Jim Helfinstine, USCG  
Tim Haugh, FHWA

03/13/2002 17:10

604-681-4364

NWCA

FILE

PAGE 01

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NORTH WEST  
CRUISESHIP  
ASSOCIATION

100 - 1111 W. Hastings Street  
Vancouver, BC V6E 2J3  
Main: 604-681-9515  
Fax: 604-681-4364  
Email: nwca@nwcruiseship.com

March 13<sup>th</sup>, 2002

Roger K. Healy, P.E.  
Engineering Manager  
State of Alaska  
Department of Transportation  
and Public Facilities  
6860 Glacier Highway  
Juneau, Alaska 99801-7999

Dear Mr. Healy:

It was a pleasure meeting you in Ketchikan at the Economic Development Committee meeting. We are pleased that the real-time simulation modeling will take place. We are still of the view that the modeling include the channel east of Pennich Island as well as the west channel.

We are very conscious of the comments and concerns raised by the Alaska Marine Pilots and the US Coast Guard on this matter. In light of this and the upcoming real-time simulation modeling, we respectfully request that the deadline for public input at this stage of the process be extended to allow for the data collection and analysis of the simulation.

Thank you for your consideration.

Sincerely,

  
John Hansen  
President

cc: Bob Doll

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